

WHAT IS CLAIMED IS:

1. A rotary aircraft and launching assembly, comprising:

a launching platform having a funnel-shaped portion;

5 a hub having a cone-shaped portion for being supported by said funnel-shaped portion of said launching platform during at least a launching of the rotary aircraft; and

a plurality of blades extending generally outwardly from said hub for generating lift.

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2. The rotary aircraft according to claim 1, wherein said launching platform further comprises a charging circuit for charging a rechargeable battery in the rotary aircraft.

15 3. The rotary aircraft according to claim 1, wherein said funnel-shaped portion is separable from a remainder of said launching platform to minimize a storage profile.

4. A rotary aircraft, comprising:

20 a hub;

a plurality of blades extending generally outwardly from said hub for generating lift;

at least one propulsion device mounted to at least one of said plurality of blades, said at least one propulsion device having propellers; and

at least one downrib disposed on said at least one of said plurality of blades, proximate to said at least one propulsion device, for protecting at least said propellers
5 of said at least one propulsion device from impact damage.

5. The rotary aircraft of claim 4, wherein said at least one downrib is injection molded.

10 6. A rotary aircraft, comprising:

a hub;

a plurality of blades extending generally outwardly from said hub for generating lift; and

at least one connector for connecting at least one blade from among said
15 plurality of blades to said hub such that said at least one blade is partially releasable from said hub upon an impact so as to dissipate any impact forces imparted upon said at least one blade.

7. The rotary aircraft according to claim 6, wherein said at least one
20 connector comprises two connection devices between said at least one blade and said hub, one of said two connection devices for remaining connected during the impact but allowing said at least one blade to pivotally move away from an impact

surface and another one of said two connection devices for disconnecting during the impact.

8. The rotary aircraft according to claim 6, wherein said at least one

5 connector comprises:

a pivot device for pivotally connecting said hub to said at least one blade; and

a clip device for connecting said hub to said at least one blade,

wherein said pivot device remains pivotally connected while said clip device releases during the impact, so as to allow said at least one blade to pivot away from

10 an impact surface and dissipate the impact forces imparted upon said at least one blade.

9. The rotary aircraft according to claim 8, wherein said pivot device comprises:

15 at least one post disposed on said hub; and

at least one post receiving portion disposed on said at least one blade.

10. The rotary aircraft of claim 9, wherein said at least one post receiving portion comprises one of a cutout, a recess, and a cylinder for receiving at least part

20 of said at least one post.

11. The rotary aircraft according to claim 8, wherein said pivot device comprises:

a first post and a second post disposed in vertical alignment with each other on opposing faces of said hub; and

a first post receiving portion and a second post receiving portion disposed on said at least one blade for respectively receiving and securing said first post and said
5 second post so as to allow said blade to pivot on a longitudinal axis of said first post and said second post.

12. The rotary aircraft according to claim 8, wherein said clip device comprises:

10 a dowel portion disposed on said at least one blade; and

a dowel receiving portion disposed on said hub for receiving and securing said dowel portion in a non-impact condition and for releasing said dowel portion in a subsequent impact condition.

15 13. The rotary aircraft of claim 12, wherein said dowel receiving portion comprises a projection having a c-shape for receiving and releasably securing the dowel portion.

14. A rotary aircraft, comprising:

20 a hub;

a plurality of blades extending generally outwardly from said hub for generating lift;

a plurality of blade attachment devices, each for respectively attaching one of said plurality of blades to said hub; and

at least one connector for connecting said hub to at least one blade attachment device having a blade attached thereto such that said blade is partially
5 releasable from said hub upon an impact to said blade so as to dissipate any impact forces imparted upon said blade.

15. The rotary aircraft according to claim 14, and wherein said at least one connector comprises two connection devices between said hub and said at least one
10 blade attachment device having said blade attached thereto, one of said two connection devices for remaining connected during the impact but allowing said blade to pivotally move away from an impact surface and another one of said two connection devices for disconnecting during the impact.

15 16. The rotary aircraft according to claim 14, wherein said at least one connector comprises:

a pivot device for pivotally connecting said hub to said at least one blade attachment device having said blade attached thereto; and

a clip device for connecting said hub to said at least one blade attachment
20 device having said blade attached thereto,

wherein said pivot device remains pivotally connected during the impact and said clip device releases during the impact, so as to allow said blade to pivot away from an impact surface and dissipate the impact forces imparted upon said blade.

17. The rotary aircraft according to claim 16, wherein said pivot device comprises:

at least one post disposed on said hub; and

5 at least one post receiving portion disposed on said blade attachment device having the blade attached thereto.

18. The rotary aircraft of claim 17, wherein said at least one post receiving portion comprises one of a cutout, a recess, and a cylinder for receiving at least part
10 of said at least one post.

19. The rotary aircraft according to claim 16, wherein said pivot device comprises:

a first post and a second post disposed in vertical alignment with each other
15 on opposing faces of said hub; and

a first post receiving portion and a second post receiving portion disposed on said at least one blade attachment device for respectively receiving and securing said first post and said second post so as to allow said at least one blade attachment device and said blade attached thereto to pivot on a longitudinal axis of said first post
20 and said second post.

20. The rotary aircraft according to claim 16, wherein said clip device comprises:

a dowel portion disposed on said at least one blade attachment device having said blade attached thereto; and

a dowel receiving portion on said hub.

- 5 21. The rotary aircraft of claim 20, wherein said dowel receiving portion comprises a projection having a c-shape for receiving and releasably securing the dowel portion.